

Queensland Department of Primary Industries
Training Series QE90014

LAND MANAGEMENT MANUAL

WAGGAMBA SHIRE

PART A

RESOURCE INFORMATION

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native pastures and they will respond to good management.

Annual grasses and herbs are difficult to manage predictably because their germination and growth are controlled strongly by climate.

Grasses differ fundamentally from shrubs, herbs and legumes in their root structure and chemical composition. Legumes behave like other herbs except that they can fix atmospheric nitrogen and hence may have higher protein content on less fertile soils.

6. NATIVE PASTURES

Richard Silcock

Most of the grazing in the shire is on native pastures. The best native species are rarely out-produced in the long-term by unfertilised introduced pastures but unpalatable species inevitably increase under continuous grazing in the absence of other factors such as herbicides, fire and flood. Heavy stocking removes the option of fire and increases the bad effects of droughts.

6.1 Pasture plant types

The plants in native pasture can be classed into three major groups:

- woody trees and shrubs;
- perennial grasses and herbs; and
- annual grasses and herbs.

Tree management needs long-term planning. Trees must be managed sensibly; complete removal can sometimes be catastrophic in its implications. Timber management is discussed in the following section and in Chapter 11.

Perennial grasses are the key to productive and stable

6.2 Native pasture management

Points to remember when managing native pastures:

- Native pastures produce over 80% of their annual yield during summer;
- Grasses respond best to summer rain;
- Late summer rain promotes prolific grass seeding;
- Winter rainfall will not break summer pasture droughts;
- Winter rains favour woody weeds, burrs and medics;
- At least two consecutive good seasons are necessary to renovate a thin pasture stand;
- Dense timber cover reduces grass growth;
- Vigorous grass growth suppresses tree and shrub seedlings;
- Cattle and kangaroos prefer grass to herbs;

- Only hot fires suppress regrowth of trees and shrubs, and insufficient use of fire in pasture grazing programs will contribute to timber regrowth problems; and
- To grow sufficient fuel for hot fire do not graze for one productive grass growing season before burning.

Note: Each March/April, the following steps should be taken for effective pasture management for the coming year:

- Aim to promote perennial grasses;
- Do not burn in spring if restoring perennial grasses;
- If young regrowth is visible, spell to encourage grass growth and burn in early summer; and
- Allow grasses to seed after clearing, burning or severe drought before rebuilding stock numbers. A six week spell following summer rain is usually long enough. This is particularly important on poorly grassed paddocks.

6.3 Native pasture condition

Climate and soil broadly determine the sort of pasture growing in Waggamba Shire. The major factors that determine the condition of the pasture are:

- basal cover;
- dry matter yield; and
- relative abundance of key species.

Appendix IV lists the key species currently found in each of the LRAs in the shire and gives a guide to what constitutes good, fair or poor pasture condition. Other notes about weeds and plant cover are included.

6.4 Native pasture composition

Native pastures are a mixture of grasses, woody plants and non-grass herbs. The proportions fluctuate with seasonal conditions and with

disturbance. A grazier's task is to keep those fluctuations within acceptable bounds so that his stock, his pastures and his country are healthy. Healthy native pastures contain many species and are well buffered against dramatic changes in composition caused by grazing.

The pristine or 'original' state of native pastures is not necessarily the best for animal production. Appendix IV gives guidelines on what a good native pasture stand should contain on the major soils in the shire, and what constitutes good, fair and poor pasture condition.

Pasture composition can vary significantly without detriment to its condition or animal production. Grass is grass provided it is green and eaten. For example, leaf of windmill grass is just as good as buffel grass leaf. Similarly, rhynchosia pea leaf is of similar feed value to lucerne leaf and is not known to cause bloating. Agronomically, though, there are big differences between the species quoted which makes the value of sown pasture species very different. But in an existing mix they are all valuable to stock.

The big differences in feed value lie between:

- grasses and non-grasses;
- green grass and dead grass; and
- grass leaf and grass stem.

Composition becomes important when pastures differ widely in either the proportion or the total amount of each. Wiregrasses have a notoriously low proportion of leaf to stem. Stem is much less digestible. Frosted or senescent grass leaf has less than half the digestibility of green leaf while differences between comparable species in fresh green leaf digestibility are normally of the order of only 5 to 10% (spinifex and irongrass excepted).

Grazing management to encourage leafiness, or more legumes as opposed to grasses, is thus a more potent tool in influencing animal nutrition than management aimed at replacing 10% of mitchell grass with, say, Bambatsi panic. Most potent by far, are the effects of rainfall and frosts. Nevertheless, a pasture consisting of 90% whitespear or wiregrasses is greatly inferior to one of 90% mitchell grass because intake of digestible dry matter (palatability x digestibility) would probably be 50% less.